practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

The Central Valley Water Board may review and revise this Order at any time upon application of any affected person or the Central Valley Water Board's own motion.

c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this General Order, the Central Valley Water Board will revise or modify this General Order in accordance with such toxic effluent standard or prohibition.

   All Dischargers authorized to discharge under this General Order shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this General Order has not yet been modified.

d. This General Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

   i. Contains different conditions or is otherwise more stringent than any effluent limitation in this General Order; or

   ii. Controls any pollutant limited in this General Order.

   The General Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

e. The provisions of this General Order are severable. If any provision of this General Order is found invalid, the remainder of this General Order shall not be affected.

f. All Dischargers authorized to discharge under this General Order shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this General Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

g. All Dischargers authorized to discharge under this General Order shall ensure compliance with any applicable existing or future pretreatment standard promulgated by U.S. EPA under section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.

h. A copy of this General Order and the Notice of Applicability shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.

i. Safeguard to electric power failure:

   i. All Dischargers authorized to discharge under this General Order shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this General Order.

ii. Upon written request by the Central Valley Water Board, the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 5 years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Central Valley Water Board.

iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Central Valley Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Central Valley Water Board that the existing safeguards are inadequate, provide to the Central Valley Water Board and U.S. EPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this General Order. The schedule of compliance shall, upon approval of the Central Valley Water Board, become a condition of this General Order.

j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VII.A.2.i of this General Order.

The technical report shall:

i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The Central Valley Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

k. A Facility whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Central Valley Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the

larger flows. The Central Valley Water Board may extend the time for submitting the report.

l. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

m. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

n. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a permanent decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Water Code section 1211).

o. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this General Order and the applicable Notice of Applicability by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

To assume operation under this General Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Notice of Applicability. The transfer request shall be made 30 days prior to the effective date of the new ownership or operator. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, and the name, address and telephone number of the persons responsible for contact with the Central Valley Water Board. The request must also include a statement that the new owner or operator assumes full responsibility for compliance with this General Order and shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment D, section V.B). Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

p. Failure to comply with provisions or requirements of this General Order, or violation of other applicable laws or regulations governing discharges from the facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

q. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, or receiving water limitation of this General Order, the Discharger shall notify the Central Valley Water Board by telephone at (916) 464-3291 (Sacramento office), at (530) 224-4845 (Redding

office), or at (559) 445-5116 (Fresno office), **within 24 hours** of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

All Dischargers authorized to discharge under this General Order shall comply with the MRP, and future revisions thereto, in Attachment E of this Order, and as specified in each Discharger's Notice of Applicability from the Executive Officer.

C. Special Provisions

1. Reopener Provisions

a. Conditions that necessitate a major modification of a permit are described in 40 C.F.R. section 122.62, including, but not limited to:

i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.

ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

b. **Mercury.** The Basin Plans' Delta Mercury Control Program was designed to proceed in two phases. After Phase 1, the Central Valley Water Board will conduct a Phase 1 Delta Mercury Control Program Review that considers modification to the Delta Mercury Control Program. This General Order may be reopened to address changes to the Delta Mercury Control Program.

c. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE) or Toxicity Evaluation Study (TES), this Order may be reopened to include a revised chronic toxicity effluent limitation, a revised acute toxicity effluent limitation, and/or an effluent limitation for a specific toxicant identified in a TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions, this Order may be reopened to implement the new provisions.

d. **Water Effect Ratios (WERs) and Metal Translators.** A default WER of 1.0 has been used in this General Order for calculating criteria for applicable inorganic constituents, except for copper (United States Department of the Interior, National Park Service, Yosemite National Park, El Portal Wastewater Treatment Facility; United Auburn Indian Community, Thunder Valley Casino Wastewater Treatment Plant; City of Grass Valley, Wastewater Treatment Plant; City of Auburn, Wastewater Treatment Plant; City of Galt, Wastewater Treatment Plant and Reclamation Facility; Cutler-Orosi Joint Powers Wastewater Authority, Wastewater Treatment Facility; El Dorado Irrigation District, El Dorado Hills Wastewater Treatment Plant; El Dorado Irrigation District, Deer Creek Wastewater Treatment Plant; and Donner Summit Public Utility District, Wastewater Treatment Plant) and zinc (City of Grass Valley, Wastewater Treatment Plant; and El Dorado Irrigation District, Deer Creek Wastewater Treatment Plant). In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total

recoverable when developing effluent limitations, except for copper and zinc (City of Grass Valley, Wastewater Treatment Plant).

If a Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this General Order may be reopened to allow effluent limitations to be modified using a site-specific WER or translator for a particular Discharger.

e. **Drinking Water Policy.** On 26 July 2013 the Central Valley Water Board adopted Resolution No. R5-2013-0098 amending the Basin Plan and establishing a Drinking Water Policy. The State Water Board approved the Drinking Water Policy on 3 December 2013. This General Order may be reopened to incorporate monitoring of drinking water constituents to implement the Drinking Water Policy.

f. **Diazinon and Chlorpyrifos Basin Plan Amendment.** Diazinon is a pesticide that has been banned for residential use; however, it sometimes is still detected in surface waters. There are existing water quality objectives in the Basin Plan for diazinon in the Feather River, Sacramento River, San Joaquin River, and Sacramento-San Joaquin Delta. In addition, the Central Valley Water Board has adopted a Basin Plan Amendment to provide an implementation plan for NPDES-permitted domestic wastewater dischargers. The Basin Plan Amendment also will apply the diazinon water quality objectives to additional surface waterbodies. The State Water Board and the Office of Administrative Law have both approved the Basin Plan Amendment. U.S. EPA action on the Basin Plan Amendment is pending. This Order will be reopened to modify diazinon effluent limitations, as appropriate, in accordance with amendments to the Basin Plan.

g. **Sacramento and San Joaquin River, and Tulare Lake Basin Variances for Salinity.** On 6 June 2014, the Central Valley Water Board adopted Resolution No. R5-2014-0074, *Amendments to the Water Quality Control Plan for the Sacramento and San Joaquin River Basins and the Water Quality Control Plan for the Tulare Lake Basin to Add Policies for Variances from Surface Water Quality Standards for Point Source Dischargers, Variance Program for Salinity, and Exception from Implementation of Water Quality Objectives for Salinity,* which became effective under the Clean Water Act on 8 July 2016 upon approval by U.S. EPA.

h. **Basin Plan Amendment – Salinity Objectives for the Lower San Joaquin River.** The Central Valley Water Board adopted a Basin Plan Amendment on 9 June 2017, which establishes salinity water quality objectives in the Lower San Joaquin River form Merced River to Vernalis. Furthermore, the Basin Plan Amendment modified the Salt and Boron TMDL to clarify that NPDES point source dischargers could participate in the real-time salinity management program in lieu of complying with the wasteload allocations. Therefore, this Order may be reopened to modify salinity requirements, as appropriate, in accordance with the Basin Plan Amendment upon approval by the State Water Board, Office of Administrative Law, and U.S. EPA.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Toxicity Reduction Evaluation Requirements.** For compliance with the Basin Plans' narrative toxicity objective, this General Order requires Dischargers to conduct chronic whole effluent toxicity (WET) testing, as specified in the MRP (Attachment E, section V). Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the chronic toxicity thresholds defined in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in

accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and prevent recurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. Alternatively, under certain conditions as described in this provision below, the Discharger may participate in an approved Toxicity Evaluation Study (TES) in lieu of conducting a site-specific TRE.

This Provision includes requirements for the development and submittal of a TRE Workplan or TRE Investigative Workplan, and TRE initiation. A TRE Workplan is required (see i. below) if the chronic toxicity results submitted as part of the Notice of Intent contain results that are greater than 1.3 TUc and 25% effect. If all the chronic toxicity results submitted as part of the Notice of Intent are less than less than 1.3 TUc and 25% effect, then the Investigative TRE Workplan is required (see ii. below).

i. **TRE Workplan.** If the Discharger has not previously submitted and received approval of a TRE Workplan, then **within 90 days** of the issuance of the Notice of Applicability, the Discharger shall submit to the Central Valley Water Board a TRE Workplan for approval by the Executive Officer. The TRE Workplan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Workplan must be developed in accordance with U.S. EPA guidance (see Attachment F, Fact Sheet section VII.B.2.a) and be of adequate detail to allow the Discharger to immediately initiate a TRE as required in this Provision.

ii. **Investigative TRE Workplan.** If the Discharger has not previously submitted and received approval for an Investigative TRE Workplan, then **within 90 days** of the issuance of the Notice of Applicability, the Discharger shall submit to the Central Valley Water Board an Initial Investigative TRE Workplan for approval by the Executive Officer. This should be a one to two page document including, at a minimum:

   (a) A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of effluent toxicity, effluent variability, and treatment system efficiency;

   (b) A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and

   (c) A discussion of who will conduct the Toxicity Identification Evaluation, if necessary (e.g., an in-house expert or outside contractor).

iii. **Numeric Toxicity Monitoring Trigger.** If the Facility does not require a chronic toxicity effluent limit, then the numeric toxicity monitoring trigger is **1** TUc (where TUc = 100/NOEC). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to initiate additional actions to evaluate effluent toxicity as specified in subsection iv, below.

iv. **Chronic Toxicity Monitoring Trigger or Effluent Limitation Exceeded.** When a chronic whole effluent toxicity result during routine monitoring exceeds the chronic toxicity monitoring trigger or effluent limitation, the Discharger shall proceed as follows:

(a) **Initial Toxicity Check**. If the result is less than or equal to 1.3 TUc (as $100/EC_{25}$) AND the percent effect is less than 25 percent, check for any operation or sample collection issues and return to routine chronic toxicity monitoring.[1] Otherwise, proceed to step (b).

(b) **Evaluate 6-week Median**. The Discharger may take two additional samples, within 6 weeks of the initial sample collection date for the sample that exceeded the chronic toxicity monitoring trigger or effluent limitation, to evaluate compliance using a 6-week median. If the 6-week median is greater than 1.3 TUc (as $100/EC_{25}$) and the percent effect is greater than 25 percent, proceed with subsection (c). Otherwise, the Discharger shall check for any operation or sample collection issues and return to routine chronic toxicity monitoring.

(c) **Toxicity Source Easily Identified.** If the source(s) of the toxicity is easily identified (e.g., temporary plant upset), the Discharger shall make necessary corrections to the facility and shall resume routine chronic toxicity monitoring. If the source of toxicity is not easily identified the Discharger shall conduct a site-specific TRE or participate in an approved TES as described in the following subsections.

(d) **Toxicity Evaluation Study.** If the percent effect is ≤ 50 percent at **100** percent effluent, as the median of up to three consecutive chronic toxicity tests within a 6 week period, the Discharger may participate in an approved TES in lieu of a site-specific TRE. The TES may be conducted individually or as part of a coordinated group effort with other similar dischargers. If the Discharger chooses not to participate in an approved TES, a site-specific TRE shall be initiated in accordance with subsection (e)(1), below. Nevertheless, the Discharger may participate in an approved TES instead of a TRE if the Discharger has conducted a site-specific TRE within the past 12 months and has been unsuccessful in identifying the toxicant.

(e) **Toxicity Reduction Evaluation.** If the percent effect is > 50 percent at **100** percent effluent, as the median of three consecutive chronic toxicity tests within a 6 week period, the Discharger shall initiate a site-specific TRE as follows:

(1) **Within thirty (30) days** of exceeding the chronic toxicity effluent limitation, the Discharger shall submit a TRE Action Plan to the Central Valley Water Board including, at minimum:

- Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;
- Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
- A schedule for these actions.

b. **Phase 1 Methylmercury Control Study.** In accordance with the Basin Plans' Delta Mercury Control Program and the compliance schedule included in this Order for methylmercury (Section VII.C.7.b), Dischargers within the Sacramento-San Joaquin Delta shall participate in the Central Valley Clean Water Association (CVCWA)

[1] The Discharger may participate in an approved TES if the chronic toxicity monitoring trigger or effluent limitation is exceeded twice or more in the past 12 month period and the cause is not identified and/or addressed.

Coordinated Methylmercury Control Study (Study) to evaluate existing control methods and, as needed, develop additional control methods that could be implemented to achieve the methylmercury waste load allocation. A workplan was submitted by CVCWA on 20 April 2013.

The Study shall evaluate the feasibility of reducing sources more than the minimum amount needed to achieve the methylmercury allocation. The Study also may include an evaluation of innovative actions, watershed approaches, offsets projects, and other short and long-term actions that result in reducing inorganic (total) mercury and methylmercury to address the accumulation of methylmercury in fish tissue and to reduce methylmercury exposure. The Study may evaluate the effectiveness of using inorganic (total) mercury controls to control methylmercury discharges.

The Study shall include a description of methylmercury and/or inorganic (total) mercury management practices identified in Phase 1; an evaluation of the effectiveness, costs, potential environmental effects, and overall feasibility of the control actions. The Study shall also include proposed implementation plans and schedules to comply with methylmercury allocations as soon as possible. The Study shall be submitted to the Central Valley Water Board by **20 October 2018**.

The Executive Officer may, after public notice, extend the due date up to 2 years if the Discharger demonstrates it is making significant progress towards developing, implementing, and/or completing the Study and reasonable attempts have been made to secure funding for the Study, but the Discharger has experienced severe budget shortfalls.

3. **Best Management Practices and Pollution Prevention**

   a. **Pollution Prevention Plan (PPP) for Mercury.** Dischargers within the Sacramento-San Joaquin Delta shall implement a PPP for mercury in accordance with Water Code section 13263.3(d)(3), per the compliance schedule in this Order for methylmercury (section VII.C.7.b). If a PPP for mercury has not been previously submitted, the Discharger shall submit a PPP within 3 months of issuance of the Notice of Applicability for Executive Officer approval. If a PPP for mercury has already been submitted, the Discharger is not required to re-submit the PPP but shall continue to implement the PPP. Progress reports shall be submitted annually in accordance with the Monitoring and Reporting Program (Attachment E, section X.D.1.). The progress reports shall discuss the effectiveness of the PPP in the reduction of mercury in the discharge, include a summary of mercury and methylmercury monitoring results, and discuss updates to the PPP.

   b. **Mercury Exposure Reduction Program.** Dischargers within the Sacramento-San Joaquin Delta shall participate in a Mercury Exposure Reduction Program (MERP) in accordance with the Basin Plans' Delta Mercury Control Program. An exposure reduction workplan for Executive Officer approval was submitted by Delta dischargers on 20 October 2013. The objective of the MERP is to reduce mercury exposure of Delta fish consumers most likely affected by mercury. The workplan shall address the MERP objective, elements, and the Discharger's coordination with other stakeholders. The minimum requirements for the exposure reduction workplan are outlined in the Fact Sheet (Attachment F, section VI.B.3.b). The Discharger shall integrate or, at minimum, provide good-faith opportunities for integration of community-based organizations, tribes, and consumers of Delta fish into planning, decision making, and implementation of exposure reduction activities. The Discharger shall continue to participate in the group effort to implement the workplan.

c. **Salinity Evaluation and Minimization Plan.** Dischargers shall implement a Salinity Evaluation and Minimization Plan to identify and address sources of salinity discharged from the Facility. If a Salinity Evaluation and Minimization Plan has not been previously submitted and the maximum observed calendar year annual average electrical conductivity of the effluent exceeds 900 µmhos/cm, the Discharger shall submit a Salinity Evaluation and Minimization Plan **within 9 months** of issuance of the Notice of Applicability. If a Salinity Evaluation and Minimization Plan has already been submitted, the Discharger is not required to re-submit the plan (except as per the condition below), but shall continue to implement the Salinity Evaluation and Minimization Plan.

For discharges that have MUN as a beneficial use and are subject to effluent limitations in Table 19, the Notice of Applicability will require the Discharger to submit and implement an updated Salinity Evaluation and Minimization Plan if the calendar year annual average effluent electrical conductivity exceeds the performance-based triggers in Table 26 below in a given year. For discharges that have MUN as a beneficial use and are not subject to effluent limitations in Table 19, the Notice of Applicability will require the Discharger to submit and implement an updated Salinity Evaluation and Minimization Plan if the calendar year annual average effluent electrical conductivity exceeds a performance-based trigger of 900 µmhos/cm in a given year. The revised plan shall be submitted by 1 April of the year following the exceedance.

Table 26. Triggers for Updating Salinity Evaluation and Minimization Plan

Maximum Annual Average Facility Performance (µmhos/cm)	Performance-Based Trigger (µmhos/cm)
900 < EC[1] ≤ 1,000	1,200
1,000 < EC ≤ 1,100	1,320
1,100 < EC ≤ 1,200	1,440
1,200 < EC ≤ 1,300	1,560
1,300 < EC ≤ 1,400	1,680
1,400 < EC ≤ 1,500	1,800
1,500 < EC ≤ 1,600	1,920
1,600 < EC ≤ 1,700	2,040
1,700 < EC ≤ 1,800	2,160
1,800 < EC	2,280

[1] EC – Electrical Conductivity @ 25°C

For discharges that do not have MUN as a beneficial use, the Discharger shall be required to monitor for electrical conductivity.

4. Construction, Operation and Maintenance Specifications

a. **Filtration System Operating Specifications.** The Notice of Applicability shall specify filtration system operating specifications for Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 to ensure the filtration system is operating properly to provide adequate disinfection of the wastewater. As specified in the Notice of Applicability, the turbidity of the filter effluent measured at Monitoring Location FIL-002 shall not exceed the applicable measurements in i and ii below. The City of Atwater and the City of Merced periodically do not use coagulation. When coagulation is not used, these dischargers shall ensure that the

turbidity of the filter influent and effluent measured at Monitoring Locations FIL-001 and FIL-002, respectively, complies with the applicable measurements in iii below.

i. **Applicable to Granular Media Filtration Systems or Equivalent**

(a) 2 NTU as a daily average;

(b) 5 NTU more than 5 percent of the time within a 24-hour period; and

(c) 10 NTU at any time.

ii. **Applicable to Membrane Filtration Systems or Equivalent**

(a) 0.2 NTU more than 5 percent of the time within a 24-hour period; and

(b) 0.5 NTU at any time.

iii. **Applicable to Granular Media Filtration Systems or Equivalent for the City of Atwater and the City of Merced (when coagulation is not used)**

(a) The turbidity of the influent to the filtration unit measured at FIL-001 shall not exceed 5 NTU for more than 15 minutes and never exceed 10 NTU; and

(b) The effluent turbidity measured at FIL-002 shall not exceed 2 NTU at any time.

b. **UV Disinfection System Operating Specifications.** The Notice of Applicability shall specify UV disinfection system operating specifications for Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 that utilize UV disinfection. The UV disinfection system must be operated in accordance with an operations and maintenance program that assures adequate disinfection, and shall meet the following minimum specifications to provide virus inactivation equivalent to Title 22 Disinfected Tertiary Recycled Water, as specified in the Notice of Applicability. If the Discharger's site-specific UV engineering study specifies dose and transmittance requirements that vary from those listed in VII.C.4.b.i and ii, below, the Discharger shall submit a copy of the UV engineering study with the Notice of Intent and the Notice of Applicability will include alternative dose and transmittance requirements based on the site-specific UV engineering study. The Notice of Applicability shall also include all applicable requirements received from DDW.

i. **UV Dose**

(a) **Applicable to Granular Media Filtration Systems or Equivalent.** The minimum hourly average UV dose in the UV reactor shall be 100 millijoules per square centimeter (mJ/cm^2).

(b) **Applicable to Membrane Filtration Systems or Equivalent.** The minimum hourly average UV dose in the UV reactor shall be 80 mJ/cm^2.

ii. **UV Transmittance**

(a) **Applicable to Granular Media Filtration Systems or Equivalent**. The minimum hourly average UV transmittance (at 254 nanometers) in the wastewater measured at Monitoring Location UVS-001 shall not fall below 55 percent.

(b) **Applicable to Membrane Filtration Systems or Equivalent**. The minimum hourly average UV transmittance (at 254 nanometers) in the wastewater measured at Monitoring Location UVS-001 shall not fall below 65 percent.

iii. The lamp sleeves and cleaning system components must be visually inspected per the manufacturer's operations manual for physical wear (scoring, solarization, seal leaks, cleaning fluid levels, etc.) and to check the efficacy of the cleaning system.

iv. The lamp sleeves must be cleaned periodically as necessary to meet the UV dose requirements.

v. Lamps must be replaced per the manufacturer's operations manual, or sooner, if there are indications the lamps are failing to provide adequate disinfection. Lamp age and lamp replacement records must be maintained.

vi. The Facility must be operated in accordance with an approved operations and maintenance program that assures adequate disinfection.

c. **Pond Operating Specifications.** The Notice of Applicability shall specify the following pond operating specifications for treatment facilities that include ponds that are used as part of a treatment process and that are not regulated under a separate WDR's, whether lined or unlined (e.g., treatment ponds, emergency storage, equalization, polishing):

i. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency, except as noted below:

(a) For the City of Atwater;

(1) Any municipal wastewater directed to the Emergency Storage Basin shall be returned to the Facility ofr treatment as soon as possible, and

(2) If there is potential for flooding in Bear Creek, wastewater must be removed from the Emergency Storage Basin prior to the onset of significant precipitation, and no wastewater may be directed to the Emergency Storage Basin for at least 24 hours after cessation of significant precipitation. Significant precipitation is defined as 0.25 inches during a 24-hour period.

ii. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.

iii. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically,

(a) For earthen facilities, an erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.

(b) Weeds shall be minimized through the control of water depth, harvesting, or herbicides.

(c) Dead algae, vegetation, and debris shall not accumulate on the water surface.

(d) The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.

iv. The discharge of waste classified as "hazardous" as defined in the California Code of Regulations (CCR), title 22, section 66261.1 et seq., is prohibited.

v. Objectionable odors originating at this Facility shall not be perceivable beyond the limits of the Facility property at an intensity that creates or threatens to create nuisance conditions.

vi. The Discharger shall operate and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow of the pond levee). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.

vii. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with sections i and vi above.

viii. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.

ix. The Discharger shall monitor sludge accumulation in wastewater treatment or storage ponds at least every five years and shall periodically remove sludge as necessary to maintain adequate storage capacity.

x. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 9.0. Short term and temporary fluctuations in pond pH below 6.0 and above 9.0 lasting no more than one week at a time are permitted for operational purposes.

5. Special Provisions for Municipal Facilities (POTW's Only)

a. **Pretreatment Requirements**

As specified in the Notice of Applicability, Dischargers with a total design flow greater than 5 MGD and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards shall comply with the following pretreatment requirements. The Notice of Applicability may also require compliance with the following requirements for POTW's with a design flow of 5 MGD or less if the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent interference with the POTW or pass through.

i. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 C.F.R. part 403, including any subsequent regulatory revisions to 40 C.F.R. part 403. Where 40 C.F.R. part 403 or subsequent revision places mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall complete the required actions within 1 year from the issuance date of the Notice of Applicability or the effective date of the 40 C.F.R. part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies by U.S. EPA or other appropriate parties, as provided in the CWA. U.S. EPA may initiate enforcement action against a nondomestic

user for noncompliance with applicable standards and requirements as provided in the CWA.

ii. The Discharger shall enforce the requirements promulgated under sections 307(b), 307(c), 307(d), and 402(b) of the CWA with timely, appropriate and effective enforcement actions. The Discharger shall cause all nondomestic users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.

iii. The Discharger shall perform the pretreatment functions as required in 40 C.F.R. part 403 including, but not limited to:

(a) Implement the necessary legal authorities as provided in 40 C.F.R. section 403.8(f)(1);

(b) Enforce the pretreatment requirements under 40 C.F.R. section 403.5 and 403.6;

(c) Implement the programmatic functions as provided in 40 C.F.R. section 403.8(f)(2); and

(d) Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 C.F.R. section 403.8(f)(3).

iv. **Pretreatment Reporting Requirements.** Pretreatment reporting requirements are included in the Monitoring and Reporting Program, section X.D.5 of Attachment E.

b. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. part 503.

As specified in the Notice of Applicability from the Executive Officer, the Discharger shall comply with the following sludge/biosolids treatment or discharge specifications. Dischargers regulated under separate WDRs for Sludge/Biosolids Treatment or Discharge Specifications will not be subject to the sludge/biosolids treatment or discharge specifications in this Order.

i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR, division 2, subdivision 1, section 20005, et seq. Removal for further treatment, storage, disposal, or reuse at sites (e.g., landfill, composting sites, soil amendment sites) that are operated in accordance with valid WDR's issued by a Regional Water Board will satisfy these specifications.

Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance.

The treatment of sludge generated at the Facility shall be confined to the Facility property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations in section VI.B of this Order. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations included in section VI.B of this Order.

ii. The use, disposal, storage, and transportation of biosolids shall comply with existing federal and state laws and regulations, including permitting requirements and technical standards included in 40 C.F.R. part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 C.F.R. part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 C.F.R. part 503 whether or not they have been incorporated into this Order.

iii. The Discharger shall comply with Section IX.A Biosolids of the Monitoring and Reporting Program, Attachment E.

iv. The onsite sludge/biosolids treatment, processing, and storage for the Facility is described in the Fact Sheet (Attachment F, Section II.A). Any proposed change in the onsite treatment, processing, or storage of sludge/biosolids shall be reported to the Executive Officer at least **90 days** in advance of the change, and shall not be implemented until written approval by the Executive Officer.

c. **Collection System.** On 2 May 2006, the State Water Board adopted State Water Board Order No. 2006-0003-DWQ, Statewide General WDR's for Sanitary Sewer Systems. The Discharger shall be subject to the requirements of Order No. 2006-0003-DWQ and any future revisions thereto. Order No. 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the general WDR's.

d. **Anaerobically Digestible Material.** If the Discharger proposes to receive hauled-in anaerobically digestible material for injection into an anaerobic digester for co-digestion, the Discharger shall notify the Central Valley Water Board and develop and implement standard operating procedures (SOP's) for this activity prior to initiation of the hauling. If the Discharger is currently accepting anaerobically digestible material for injection into an anaerobic digester for co-digestion, then within 180 days of issuance of the Notice of Applicability, the Discharger shall develop and implement SOP's for this activity. The SOP's shall address material handling, including unloading, screening, or other processing prior to anaerobic digestion; transportation; spill prevention; and spill response. In addition, the SOP's shall address avoidance of the introduction of materials that could cause interference, pass-through, or upset of the treatment processes; avoidance of prohibited material, vector control, odor control, operation and maintenance, and the disposition of any solid waste segregated from introduction to the digester. The Discharger shall provide training to its staff on the SOP's and shall maintain records for a minimum of 3 years for each load received, describing the hauler, waste type, and quantity received. In addition, the Discharger shall maintain records for a minimum of 3 years for the disposition, location, and quantity of accumulated pre-digestion-segregated solid waste hauled off-site.

6. Other Special Provisions

a. **Title 22, or Equivalent, Disinfection Requirements.** For Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4, wastewater shall be oxidized, coagulated (as needed), filtered, and adequately disinfected pursuant to the DDW reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent.

7. Compliance Schedules

a. **Methylmercury for the City of Lodi, White Slough Water Pollution Control Facility; and City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility.** This Order requires compliance with the final effluent limitations for methylmercury for Dischargers in the Sacramento-San Joaquin Delta by 31 December 2030. Dischargers in the Sacramento-San Joaquin Delta shall comply with the following time schedule to ensure compliance with the final effluent limitations:

	Task	Date Due
	Phase 1	
i.	Submit CVCWA Coordinated Methylmercury Control Study Workplan	**Complete**
ii.	Prepare and Implement PPP[1] for Mercury (per Section VII.C.3.a)	**Within 3 months** of issuance of the Notice of Applicability (if a PPP has not been previously submitted)
iii.	Implement CVCWA Coordinated Methylmercury Control Study Workplan	**Immediately following Executive Officer approval**
iv.	Annual Progress Reports[2]	**30 January, annually**
v.	Submit Final CVCWA Coordinated Methylmercury Control Study	**20 October 2018[3]**
	Phase 2	
vi.	Implement methylmercury control programs	**TBD[4]**
vii.	Full Compliance	**31 December 2030[4]**

[1] The PPP for mercury shall be implemented in accordance with Section VI.C.3.a.

[2] Beginning **30 January 2018** and annually thereafter until the Facility achieves compliance with the final effluent limitations for methylmercury, the Discharger shall submit annual progress reports on pollution minimization activities implemented and evaluation of their effectiveness, including a summary of total mercury and methylmercury monitoring results.

[3] The Executive Officer may, after public notice, extend the due date for the Final CVCWA Coordinated Methylmercury Control Study up to 2 years if the Discharger demonstrates it is making significant progress towards developing, implementing, and/or completing the Study and reasonable attempts have been made to secure funding for the Study, but the Discharger has experienced severe budget shortfalls.

[4] To be determined. Following Phase 1 the Central Valley Water Board will conduct a Phase 1 Delta Mercury Control Program Review that considers: modification of methylmercury goals, objectives, allocations, final compliance date, etc. Consequently, the start of Phase 2 and the final compliance date is uncertain at the time this Order was adopted.

VIII. COMPLIANCE DETERMINATION

A. **BOD_5 and TSS Effluent Limitations (Sections V.A.1.a.i and V.A.1.a.ii).** Compliance with the final effluent limitations for BOD_5 and TSS required in Limitations and Discharge Requirements sections V.A.1.a.i and V.A.1.a.ii shall be ascertained by 24-hour composite

samples. Compliance with effluent limitations required in Limitations and Discharge Requirements section V.A.1.a.i(b) and V.A.1.a.ii(b) for percent removal shall be calculated using the arithmetic mean of BOD_5 and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

B. **Aluminum Effluent Limitations (Sections V.A.1.c.vi and V.A.1.c.vii).** Compliance with the final effluent limitations for aluminum can be demonstrated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by U.S. EPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer.

C. **Total Mercury Mass Loading Effluent Limitations (Sections V.A.1.c.xi and V.A.2.b).** The procedures for calculating mass loadings are as follows:

1. All effluent monitoring data collected under the monitoring and reporting program, pretreatment program, and any special studies shall be used for these calculations. The total annual mass loading shall be the sum of the mercury load for the individual calendar months. Calculation of the monthly mercury load shall be conducted as follows.

   a. If mercury measurements are made at least monthly during a calendar year, the total pollutant mass load for each individual calendar month shall be determined using an average of all concentration data collected that month and the corresponding total monthly flow.

   b. If data is only collected for one month during a calendar quarter, the mass load for each individual calendar month within the calendar quarter shall be determined using the average of all concentration data collected for the one month and the total monthly flow for each individual calendar month. (e.g., the average mercury effluent concentration in December was 0.044 µg/L and the total monthly flow was 129 MG. Mercury monitoring data was not collected in October and November; the total monthly flows of the individual months were 60 MG and 84 MG, respectively. Therefore, the total pollutant mass load for the calendar quarter equates to 0.1 lbs/quarter (0.022 lbs/mo + 0.031 lbs/mo + 0.047 lbs/mo).

   c. If data is only collected for two months during a calendar quarter, the mass load for each of those individual calendar months shall be determined using the corresponding average of all concentration data collected that month and the corresponding total monthly flow for that month. The total pollutant mass load for the remaining month within the calendar quarter shall be determined using the average of all concentration data collected that calendar quarter and the corresponding total monthly flow for that month. (e.g., the average monthly mercury concentrations in July and August were 0.0004 µg/L and 0.00034 µg/L and the total monthly flows were 35 MG and 31 MG, respectively. The average monthly mercury concentration for September was calculated to be 0.00037 µg/L and the total monthly flow was 30 MG. Therefore, the total pollutant mass load for the calendar quarter equates to 0.00022 lbs/quarter (0.00012 lbs/mo + 0.000088 lbs/mo + 0.000093 lbs/mo).

   d. If data is only collected one month during a calendar year, the total mass load for each of the individual months of the calendar year shall be determined using the average concentration data for the one month and the total monthly flow for each individual calendar month.

2. In calculating compliance, the Discharger shall count all non-detect measures at one-half of the detection level. If compliance with the effluent limitation is not attained due to the

non-detect contribution, the Discharger shall improve and implement available analytical capabilities and compliance shall be evaluated with consideration of the detection limits.

D. **Average Dry Weather Flow Effluent Limitations (Section V.A.1.a.iii).** The average dry weather discharge flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow effluent limitations will be determined annually based on the average daily flow over three consecutive dry weather months (e.g., July, August, and September).

E. **Total Coliform Organisms Effluent Limitations (Sections V.A.1.a.i(c) and V.A.1.a.ii(c)).** For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days. For example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 days (i.e., Tuesday, Monday, Sunday, Saturday, Friday, and Thursday) are used to calculate the 7-day median. If the 7-day median of total coliform organisms exceeds 23 MPN/100 mL (for Dischargers subject to V.A.1.a.i(c)(1)) or 2.2 MPN/100 mL (for Dischargers subject to V.A.1.a.ii(c)(1)), the Discharger will be considered out of compliance.

F. **Total Residual Chlorine Effluent Limitations (Section V.A.1.c.iii).** Continuous monitoring analyzers for chlorine residual or for dechlorination agent residual in the effluent are appropriate methods for compliance determination. A positive residual dechlorination agent in the effluent indicates that chlorine is not present in the discharge, which demonstrates compliance with the effluent limitations. This type of monitoring can also be used to prove that some chlorine residual exceedances are false positives. Continuous monitoring data showing either a positive dechlorination agent residual or a chlorine residual at or below the prescribed limit are sufficient to show compliance with the total residual chlorine effluent limitations, as long as the instruments are maintained and calibrated in accordance with the manufacturer's recommendations.

Any excursion above the 1-hour average or 4-day average total residual chlorine effluent limitations is a violation. If the Discharger conducts continuous monitoring and the Discharger can demonstrate, through data collected from a back-up monitoring system, that a chlorine spike recorded by the continuous monitor was not actually due to chlorine, then any excursion resulting from the recorded spike will not be considered an exceedance, but rather reported as a false positive. Records supporting validation of false positives shall be maintained in accordance with Section IV Standard Provisions (Attachment D).

G. **Mass Effluent Limitations.** The mass effluent limitations contained in the Final Effluent Limitations V.A.1.a.i(a) and V.A.1.a.ii(a) for BOD_5 and TSS and V.A.1.c.v(b) for ammonia are based on the permitted average dry weather flow and calculated as follows:

Mass (lbs/day) = Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor)

If the effluent flow exceeds the permitted average dry weather flow during wet-weather seasons, the effluent mass limitations contained in Final Effluent Limitations V.A.1.a.i(a) and V.A.1.a.ii(a) for BOD_5 and TSS and V.A.1.c.v(b) for ammonia shall not apply. If the effluent flow is below the permitted average dry weather flow during wet-weather seasons, the effluent mass limitations do apply.

H. **Priority Pollutant Effluent Limitations.** Compliance with effluent limitations for priority pollutants shall be determined in accordance with Section 2.4.5 of the SIP, as follows:

1. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

2. Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) in accordance with section 2.4.5.1 of the SIP when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:

   a. A sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or

   b. A sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).

3. When determining compliance with an average monthly effluent limitation (AMEL) and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP (as described in section 2.4.5.1), the discharger shall not be deemed out of compliance.

I. **Dissolved Oxygen Receiving Water Limitation (Section VI.A.6).** Receiving water monitoring is required in the Monitoring and Reporting Program (Attachment E) and is sufficient to evaluate the impacts of the discharge and compliance with this General Order. Receiving water monitoring data, measured at Monitoring Locations RSW-001 and RSW-002, will be used to determine compliance with sections VI.A.6.a.iii, VI.A.6.a.iv, VI.A.6.b.i, VI.A.6.b.ii, and VI.A.6.b.iii of the dissolved oxygen receiving water limitation to ensure the discharge does not cause the dissolved oxygen concentrations in the receiving water to be reduced below the specified receiving water limitation at any time. However, should more frequent dissolved oxygen and temperature receiving water monitoring be conducted, Central Valley Water Board staff may evaluate compliance with sections VI.A.6.a.i and VI.A.6.a.ii.

J. **Chronic Whole Effluent Toxicity Effluent Limitation (Section V.A.1.c.ii).** To evaluate compliance with the chronic whole effluent toxicity effluent limitation, the median chronic toxicity units (TUc) shall be the median of up to three consecutive chronic toxicity bioassays during a six week period. This includes a routine chronic toxicity monitoring event and two subsequent optional compliance monitoring events. Where the median chronic toxicity units exceed 1 TUc (as 100/NOEC), the Discharger will be deemed out of compliance with the chronic toxicity effluent limitation if the median chronic toxicity units for any endpoint also exceed a reporting level of 1.3 TUc (as $100/EC_{25}$) AND the percent effect at 100% effluent exceeds 25 percent. The percent effect used to evaluate compliance with the chronic toxicity effluent limitation shall be based on the chronic toxicity bioassay result(s) from the sample(s) used to establish the median TUc result. If the median TUc is based on two equal chronic

toxicity bioassay results, the percent effect of the sample with the greatest percent effect shall be used to evaluate compliance with the chronic toxicity effluent limitation.

K. **Chlorpyrifos and Diazinon Effluent Limitations (Section V.A.1.c.ix).** Compliance shall be determined by calculating the sum (S), as provided in this Order, with analytical results that are reported as "non-detectable" concentrations to be considered to be zero.

L. **Temperature Effluent Limitation (Section V.A.1.c.xii).** Compliance with the final effluent limitations for temperature shall be ascertained using the average of effluent monitoring results measured at Monitoring Location EFF-001 during the 24-hour period starting at 12:00 a.m. measured on the same day of the receiving water monitoring results and the daily average temperature of the receiving water measured at Monitoring Location RSW-001.

M. **Use of Delta Regional Monitoring Program and Other Receiving Water Data to Determine Compliance with Receiving Water Limitations.** For Dischargers in the Sacramento-San Joaquin Delta, Delta Regional Monitoring Program data and other receiving water monitoring data that is not specifically required to be conducted by the Discharger under this permit will not be used directly to determine that the discharge is in violation of this Order. The Discharger may, however, conduct any site-specific receiving water monitoring deemed appropriate by the Discharger that is not conducted by the Delta Regional Monitoring Program and submit that monitoring data. As described in section VIII of Attachment E, such data may be used, if scientifically defensible, in conjunction with other receiving water data, effluent data, receiving water flow data, and other pertinent information to determine whether or not a discharge is in compliance with this Order.

N. **Period Average, Calendar Month Average, and Annual Average (Section VI.A.16).** Period average shall be the arithmetic average of all measurements taken during the period indicated. Calendar month average shall be the arithmetic average of all measurements taken during the month(s) indicated. Annual average shall be the arithmetic average of all measurements taken during the calendar year.

O. **Turbidity Receiving Water Limitation (Section VI.A.18).** A 1-month averaging period may be used when determining compliance with the turbidity receiving water limitations.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)
Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative
Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic
Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)
CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Controllable Factors
Controllable water quality factors are not allowed to cause further degradation of water quality in instances where other factors have already resulted in water quality objectives being exceeded. Controllable water quality factors are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the State, that are subject to the authority of the State Water Board or Regional Water Board, and that may be reasonably controlled.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit
Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effect Concentration (EC)
A point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapitation) in a given percent of the test organisms, calculated from a continuous model (e.g. Probit Model). EC_{25} is a point estimate of the toxicant concentration that would cause an observable adverse effect in 25 percent of the test organisms.

Effluent Concentration Allowance (ECA)
ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays
Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Endpoint
An effect that is measured in a toxicity study. Endpoints in toxicity tests may include, but are not limited to survival, reproduction, and growth.

Estimated Chemical Concentration
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters
All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median
The middle measurement in a set of data. The median of a set of data are found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the n/2 and n/2+1).

Method Detection Limit (MDL)
MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)
ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone
Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Monthly Median Effluent Limitation (MMEL)
The highest allowable median of daily discharges over a six-week period, calculated as the median value of all daily discharges measured during a six-week period starting from the first sample collection date.

No-Observed-Effect-Concentration (NOEC)
The highest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle (short-term) test, that causes no observable adverse effects on the test organisms (i.e., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls).

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Percent Effect
The percent effect at the instream waste concentration (IWC) shall be calculated using untransformed data and the following equation:

$$\text{Percent Effect at the IWC} = \frac{\text{Mean Control Response} - \text{Mean IWC Response}}{\text{Mean Control Response}} \cdot 100$$

Persistent Pollutants
Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Valley Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or Central Valley Water Board.

Satellite Collection System
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) in a Central Valley Water Board Basin Plan.

Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – NOTICE OF INTENT

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

NOTICE OF INTENT

TO COMPLY WITH THE TERMS OF
GENERAL ORDER R5-2017-0085
NPDES NO. CAG585001
FOR
MUNICIPAL WASTEWATER DISCHARGERS THAT MEET
OBJECTIVES/CRITERIA AT THE POINT OF DISCHARGE TO SURFACE WATER

To obtain coverage under this General Order, which also serves as the National Pollutant Discharge Elimination System (NPDES) Permit, the Discharger must submit a complete Notice of Intent including the following requirements. Additional information may be requested by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) for a specific discharge.

ALL DISCHARGERS. The following items shall be submitted by all Dischargers applying for coverage under this General Order.

1. Fee Requirements

☐ Provide the applicable fees. Information concerning the applicable fees can be found at http://www.waterboards.ca.gov/resources/fees/. Checks must be made payable to the State Water Resources Control Board.

2. Discharger Information

☐ Legal name, address, contact person, and phone number for the Facility, Facility Owner, Facility Property Owner, and Facility Operator (agency or business, not a person).

3. Facility Information

☐ Identification of existing waste discharge requirement order number(s) and NPDES permit number, if applicable;

☐ Description of plans for growth and/or expansion of facilities, or other modifications, for the next 5 years (complete section 8 if you are requesting an increase in the permitted flow associated with a facility expansion);

☐ Description of recent upgrades and upgrades anticipated during the next 5 years;

☐ Description of operational changes or issues resulting from effluent violations and/or plant upset(s), if any, during the last 5 years;

☐ Indication whether the Facility has reached, or will reach within the next 5 years, 75% of the hydraulic and treatment capacity of its treatment and disposal facilities; and

☐ Name of receiving water and nearest major downstream water body.

☐ Facility location site map and flow schematic diagram.

☐ Assessor Parcel Number for the Facility and the Facility's Discharge Point(s).

☐ Longitude and latitude of the Facility and the Facility's Discharge Point(s).

☐ Current design flow and actual flow.

4. Pretreatment Program

Do you have a pretreatment program approved by the Central Valley Water Board?

☐ Yes - Provide a description of recent and proposed changes to your pretreatment program and industrial users in your service area.

☐ No.

LOW VOLUME DISCHARGERS. The following items shall be submitted by low volume Dischargers requesting an exception to priority pollutant sampling requirements in section IX.F of the Monitoring and Reporting Program (MRP).

5. Exception for Priority Pollutant Sampling Requirements

☐ Provide justification that the discharge will have no significant adverse impact on water quality.

EXISTING DISCHARGERS. The following items shall be submitted by existing Dischargers applying for coverage under this General Order.

6. Wastewater Sampling and Analysis Requirements for Existing Dischargers

Is additional representative data for the effluent and/or receiving water available that the Discharger would like to be considered that has not been reported in the California Integrated Water Quality System (CIWQS) during the last 3 years?

☐ Yes - Provide the analytical data from the laboratory.

☐ No.

Is the existing discharge from a facility that has undergone a major upgrade for which there is not 3 years of representative data available and the effluent has not been analyzed for the priority pollutants and other constituents of concern listed in Table E-10 in accordance with the specifications in section IX.F of the Monitoring and Reporting Program (Attachment E)?

☐ Yes - Provide estimated data for the proposed effluent and for the priority pollutants and other constituents of concern listed in section IX.F of the Monitoring and Reporting Program (Attachment E).

☐ No.

NEW DISCHARGERS. The following items shall be submitted by new Dischargers applying for coverage under this General Order.

7. Wastewater Sampling and Analysis Requirements for New Dischargers

☐ If the proposed new discharge is from an operational facility (e.g., a facility that currently discharges to land) and it is feasible to collect a representative sample of the proposed effluent, collect a sample of the proposed effluent and analyze it for the priority pollutants and other constituents of concern listed in Table E-10 in accordance with the specifications in section IX.F of the Monitoring and Reporting Program (Attachment E). Provide the analytical data from the laboratory.

If the proposed new discharge is from a new facility for which construction and startup has not been completed, or a representative sample of the proposed discharge cannot otherwise be collected, provide an engineering report estimating the character of the effluent for the priority pollutants and other constituents of concern listed in Table E-10 of the Monitoring and Reporting Program (Attachment E). (Note that sampling will be required within 18 months for a new facility that is fully operational at the time of the issuance of the Notice of Applicability or within 21 months following completion of construction of a new facility that is not fully operational at the time of the issuance of the Notice of Applicability).

☐ Collect a sample of the upstream receiving water and analyze it for the priority pollutants and other constituents of concern listed in Table E-10 in accordance with the specifications in section IX.F of the Monitoring and Reporting Program (Attachment E). Provide the analytical data from the laboratory.

NEW AND EXPANDING DISCHARGERS. The following items shall be submitted by Dischargers requesting new or expanding discharges under this General Order.

8. Antidegradation Analysis

☐ Provide an antidegradation analysis meeting the requirements of 40 C.F.R. 131.12 and State Water Board Resolution No. 68-16, "*Statement of Policy With Respect to Maintaining High Quality of Waters in California*". See Administrative Procedures Update (APU) 90-004 for additional guidance.

☐ Provide a feasibility study for wastewater disposal, regionalization, and recycled water alternatives.

ULTRAVIOLET LIGHT (UV) DISINFECTION DISCHARGERS. The following items shall be submitted by Dischargers that use UV disinfection.

9. UV Disinfection System Information

Are you requesting site-specific UV disinfection system operating specifications in lieu of the specification in Special Provisions VII.C.4.b.i and ii?

☐ Yes - Provide a copy of the site-specific engineering study and a copy of the approval letter from the State Water Board, Division of Drinking Water (DDW).

☐ No - You are not required to provide any additional information regarding the UV disinfection system.

Do you use chlorine within the treatment system for cleaning and/or maintenance purposes?

☐ Yes - Provide a description of chlorine use and demonstration that chlorine use is managed properly.

☐ No.

10. CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment."

A. Printed Name: _____

B. Signature: _____ C. Date: _____

D. Title: _____

ATTACHMENT C – SCREENING LEVELS

I. Screening Levels for Priority Pollutants (Excluding Hardness-Based Metals)

To determine the priority pollutants requiring effluent limitations, the Central Valley Water Board will conduct a reasonable potential analysis (RPA) utilizing the effluent and ambient background data as discussed in section V.C.2.b of the Fact Sheet (Attachment F), the screening levels in Tables C-1 through C-2M, and the procedures specified in section 1.3 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP).

The Central Valley Water Board will identify the maximum effluent concentration (MEC) and maximum background (B) concentration for each priority pollutant and compare this information to the applicable screening level in Tables C-1 through C-2M, which represents the most stringent applicable water quality criterion (C) from the CTR and Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential:

Trigger 1. If the MEC is greater than C, there is reasonable potential, and the Notice of Applicability from the Executive Officer will specify effluent limitations for the pollutant.

Trigger 2. If B is greater than C, and the pollutant is detected in the effluent (MEC > ND), there is reasonable potential, and the Notice of Applicability from the Executive Officer will specify effluent limitations for the pollutant.

Trigger 3. After a review of other available and relevant information, the Central Valley Water Board may decide that an effluent limitation is required, and the Notice of Applicability from the Executive Officer will specify effluent limitations for the pollutant. Such additional information may include, but is not limited to: the facility type, the discharge type, solids loading analyses, lack of dilution, history of compliance problems, potential toxic impact of the discharge, fish tissue residue data, water quality and beneficial uses of the receiving water, CWA 303(d) listing for the pollutant, and the presence of endangered or threatened species or their critical habitat.

For priority pollutants that exhibit reasonable potential to cause or contribute to a water quality criterion/objective, the Executive Officer shall indicate the applicable effluent limitations from section V.A.1.b of this General Order in the Notice of Applicability.

Table C-1. Screening Levels for Priority Pollutants

Parameter	Units	Screening Level (Based on MUN[1])	Screening Level (Based on non MUN[1])
Antimony	µg/L	6	4,300
Arsenic	µg/L	10	150
Beryllium	µg/L	4	--
Chromium (VI) or total Cr	µg/L	11	11
Mercury	µg/L	0.05	0.051
Selenium	µg/L	5	5
Thallium	µg/L	1.7	6.3
Cyanide	µg/L	5.2	5.2
Asbestos	MFL	7	--
2,3,7,8-TCDD (Dioxin)	µg/L	1.30E-08	1.40E-08
Acrolein	µg/L	320	780
Acrylonitrile	µg/L	0.059	0.66
Benzene	µg/L	1	71
Bromoform	µg/L	4.3	360
Carbon Tetrachloride	µg/L	0.25	4.4
Chlorobenzene	µg/L	70	21,000

Parameter	Units	Screening Level (Based on MUN[1])	Screening Level (Based on non MUN[1])
Chlorodibromomethane	µg/L	0.41	34
Chloroethane	µg/L	--	--
2-Chloroethylvinyl Ether	µg/L	--	--
Chloroform	µg/L	80	--
Dichlorobromomethane	µg/L	0.56	46
1,1-Dichloroethane	µg/L	5	--
1,2-Dichloroethane	µg/L	0.38	99
1,1-Dichloroethylene	µg/L	0.057	3.2
1,2-Dichloropropane	µg/L	0.52	39
1,3-Dichloropropylene	µg/L	0.5	1,700
Ethylbenzene	µg/L	300	29,000
Methyl Bromide	µg/L	48	4,000
Methyl Chloride	µg/L	--	--
Methylene Chloride	µg/L	4.7	1,600
1,1,2,2-Tetrachloroethane	µg/L	0.17	11
Tetrachloroethylene	µg/L	0.8	8.85
Toluene	µg/L	150	200,000
1,2-Trans-Dichloroethylene	µg/L	10	140,000
1,1,1-Trichloroethane	µg/L	200	--
1,1,2-Trichloroethane	µg/L	0.6	42
Trichloroethylene	µg/L	2.7	81
Vinyl Chloride	µg/L	0.5	525
2-Chlorophenol	µg/L	120	400
2,4-Dichlorophenol	µg/L	93	790
2,4-Dimethylphenol	µg/L	540	2,300
2-Methyl-4,6-Dinitrophenol	µg/L	13.4	765
2,4-Dinitrophenol	µg/L	70	14,000
2-Nitrophenol	µg/L	--	--
4-Nitrophenol	µg/L	--	--
3-Methyl-4-Chlorophenol	µg/L	--	--
Pentachlorophenol	µg/L	0.28	8.2
Phenol	µg/L	21,000	4,600,000
2,4,6-Trichlorophenol	µg/L	2.1	6.5
Acenaphthene	µg/L	1,200	2,700
Acenaphthylene	µg/L	--	--
Anthracene	µg/L	9,600	110,000
Benzidine	µg/L	0.00012	0.00054
Benzo(a)Anthracene	µg/L	0.0044	0.049
Benzo(a)Pyrene	µg/L	0.0044	0.049
Benzo(b)Fluoranthene	µg/L	0.0044	0.049
Benzo(ghi)Perylene	µg/L	--	--
Benzo(k)Fluoranthene	µg/L	0.0044	0.049
Bis(2-Chloroethoxy)Methane	µg/L	--	--
Bis(2-Chloroethyl)Ether	µg/L	0.031	1.4
Bis(2-Chloroisopropyl)Ether	µg/L	1,400	170,000
Bis(2-Ethylhexyl)Phthalate	µg/L	1.8	5.9
4-Bromophenyl Phenyl Ether	µg/L	--	--
Butylbenzyl Phthalate	µg/L	3,000	5,200
2-Chloronaphthalene	µg/L	1,700	4,300
4-Chlorophenyl Phenyl Ether	µg/L	--	--
Chrysene	µg/L	0.0044	0.049
Dibenzo(a,h)Anthracene	µg/L	0.0044	0.049
1,2-Dichlorobenzene	µg/L	600	17,000

Parameter	Units	Screening Level (Based on MUN[1])	Screening Level (Based on non MUN[1])
1,3-Dichlorobenzene	µg/L	400	2,600
1,4-Dichlorobenzene	µg/L	5	2,600
3,3'-Dichlorobenzidine	µg/L	0.04	0.077
Diethyl Phthalate	µg/L	23,000	120,000
Dimethyl Phthalate	µg/L	313,000	2,900,000
Di-n-Butyl Phthalate	µg/L	2,700	12,000
2,4-Dinitrotoluene	µg/L	0.11	9.1
2,6-Dinitrotoluene	µg/L	--	--
Di-n-Octyl Phthalate	µg/L	--	--
1,2-Diphenylhydrazine	µg/L	0.040	0.54
Fluoranthene	µg/L	300	370
Fluorene	µg/L	1,300	14,000
Hexachlorobenzene	µg/L	0.00075	0.00077
Hexachlorobutadiene	µg/L	0.44	50
Hexachlorocyclopentadiene	µg/L	50	17,000
Hexachloroethane	µg/L	1.9	8.9
Indeno(1,2,3-cd) Pyrene	µg/L	0.0044	0.049
Isophorone	µg/L	8.4	600
naphthalene	µg/L	--	--
Nitrobenzene	µg/L	17	1,900
N-Nitrosodimethylamine	µg/L	0.00069	8.1
N-Nitrosodi-n-Propylamine	µg/L	0.005	1.4
N-Nitrosodiphenylamine	µg/L	5.0	16
Phenanthrene	µg/L	--	--
Pyrene	µg/L	960	11,000
1,2,4-Trichlorobenzene	µg/L	5	--
Aldrin	µg/L	0.00013	0.00014
alpha-BHC	µg/L	0.0039	0.013
beta-BHC	µg/L	0.014	0.046
gamma-BHC	µg/L	0.019	0.063
delta-BHC	µg/L	--	--
Chlordane	µg/L	0.00057	0.00059
4,4-DDT	µg/L	0.00059	0.00059
4,4-DDE	µg/L	0.00059	0.00059
4,4-DDD	µg/L	0.00083	0.00084
Dieldrin	µg/L	0.00014	0.00014
alpha-Endosulfan	µg/L	0.056	0.056
beta-Endosulfan	µg/L	0.056	0.056
Endosulfan Sulfate	µg/L	110	240
Endrin	µg/L	0.036	0.036
Endrin Aldehyde	µg/L	0.76	0.81
Heptachlor	µg/L	0.00021	0.00021
Heptchlor Epoxide	µg/L	0.00010	0.00011
PCBs sum[2]	µg/L	0.00017	0.00017
Toxaphene	µg/L	0.0002	0.0002

[1] MUN = Municipal and Domestic Supply Beneficial Use.

[2] This objective applies to the sum of PCB Aroclors 1242, 1254, 1221, 1232, 1248, 1280, and 1016.

II. Screening Levels for Priority Pollutant Hardness-Based Metals

The Central Valley Water Board will conduct an RPA in accordance with the procedures described in section I, above. The screening levels contained in Tables C-2A through C-2D are based on hardness[1]. For waters with hardness concentrations less than 100 mg/L, screening levels have been segmented into 5 mg/L increments. For waters with hardness concentrations greater than or equal to 100 mg/L but less than 200 mg/L, screening levels have been segmented into 20 mg/L increments. For waters with hardness concentrations greater than or equal to 200 mg/L but less than 400 mg/L, screening levels have been segmented into 50 mg/L increments. For each segment the mid-point of the segment was used to determine the corresponding effluent limit. For waters with lowest observed hardness concentrations greater than or equal to 400 mg/L, a hardness value of 400 mg/L was used to determine the corresponding effluent limit. The hardness used to select the appropriate screening level shall be determined in accordance with section V.C.2.e of the Fact Sheet (Attachment F).

The applicable screening levels for copper and zinc from Tables C-2A through C-2F shall be multiplied by the site-specific water effect ratios (WER's) in Table C-2M of this General Order for the specified Dischargers.

For the City of Grass Valley, Wastewater Treatment Plant, the screening levels for copper and zinc in Tables C-2G through C-2L shall apply in lieu of those in Tables C-2A through C-2F.

Table C-2A. Screening Levels for Hardness-Dependent Metals – Hardness 0 to < 25 mg/L

Parameter[1]	Units	Hardness in mg/L (H)				
		0 ≤ H < 5	5 ≤ H < 10	10 ≤ H < 15	15 ≤ H < 20	20 ≤ H < 25
		Screening Level	Screening Level	Screening Level	Screening Level	Screening Level
Cadmium	µg/L	0.14	0.32	0.48	0.63	0.76
Chromium (III)	µg/L	10	25	38	50	61
Copper	µg/L	0.40	1.0	1.6	2.1	2.6
Lead	µg/L	0.029	0.12	0.23	0.35	0.48
Nickel	µg/L	2.3	5.8	9	12	15
Silver	µg/L	0.0071	0.047	0.11	0.2	0.31
Zinc	µg/L	5.3	13	21	27	34

[1] All metal concentrations are given as a total recoverable.

Table C-2B. Screening Levels for Hardness Dependent Metals – Hardness 25 to < 50 mg/L

Parameter[1]	Units	Hardness in mg/L (H)				
		25 ≤ H < 30	30 ≤ H < 35	35 ≤ H < 40	40 ≤ H < 45	45 ≤ H < 50
		Screening Level	Screening Level	Screening Level	Screening Level	Screening Level
Cadmium	µg/L	0.89	1.0	1.1	1.3	1.4
Chromium (III)	µg/L	72	82	93	100	110
Copper	µg/L	3.1	3.6	4	4.5	4.9
Lead	µg/L	0.62	0.76	0.91	1.1	1.2
Nickel	µg/L	18	20	23	25	28
Silver	µg/L	0.44	0.59	0.75	0.93	1.1
Zinc	µg/L	40	46	52	58	64

[1] All metal concentrations are given as a total recoverable.

[1] All hardness values are in mg/L as $CaCO_3$

Table C-2C. Screening Levels for Hardness Dependent Metals – Hardness 50 to < 75 mg/L

Parameter[1]	Units	Hardness in mg/L (H)				
		50 ≤ H < 55	55 ≤ H < 60	60 ≤ H < 65	65 ≤ H < 70	70 ≤ H < 75
		Screening Level	Screening Level	Screening Level	Screening Level	Screening Level
Cadmium	µg/L	1.5	1.6	1.7	1.8	1.9
Chromium (III)	µg/L	120	130	140	150	160
Copper	µg/L	5.4	5.8	6.2	6.7	7.1
Lead	µg/L	1.4	1.6	1.7	1.9	2.1
Nickel	µg/L	30	33	35	37	40
Silver	µg/L	1.3	1.6	1.8	2.1	2.3
Zinc	µg/L	69	75	80	86	91

[1] All metal concentrations are given as a total recoverable.

Table C-2D. Screening Levels for Hardness Dependent Metals – Hardness 75 to ≥ 100 mg/L

Parameter[1]	Units	Hardness in mg/L (H)				
		75 ≤ H < 80	80 ≤ H < 85	85 ≤ H < 90	90 ≤ H < 95	95 ≤ H < 100
		Screening Level	Screening Level	Screening Level	Screening Level	Screening Level
Cadmium	µg/L	2.0	2.1	2.2	2.3	2.4
Chromium (III)	µg/L	170	180	190	190	200
Copper	µg/L	7.5	7.9	8.3	8.7	9.1
Lead	µg/L	2.3	2.5	2.7	2.9	3.1
Nickel	µg/L	42	44	47	49	51
Silver	µg/L	2.6	2.9	3.2	3.5	3.9
Zinc	µg/L	97	100	110	110	120

[1] All metal concentrations are given as a total recoverable.

Table C-2E. Screening Levels for Hardness Dependent Metals – Hardness 100 to ≥ 200 mg/L

Parameter[1]	Units	Hardness in mg/L (H)				
		100 ≤ H < 120	120 ≤ H < 140	140 ≤ H < 160	160 ≤ H < 180	180 ≤ H < 200
		Screening Level	Screening Level	Screening Level	Screening Level	Screening Level
Cadmium	µg/L	2.7	3	3.4	3.7	4.1
Chromium (III)	µg/L	220	260	290	320	350
Copper	µg/L	10	12	13	15	16
Lead	µg/L	3.6	4.4	5.3	6.3	7.2
Nickel	µg/L	57	65	74	82	90
Silver	µg/L	4.8	6.4	8.2	10	12
Zinc	µg/L	130	150	170	190	210

[1] All metal concentrations are given as a total recoverable.

Table C-2F. Screening Levels for Hardness Dependent Metals – Hardness 200 to ≥ 400 mg/L

Parameter[1]	Units	Hardness in mg/L (H)				
		200 ≤ H < 250	250 ≤ H < 300	300 ≤ H < 350	350 ≤ H < 400	H ≥ 400
		Screening Level	Screening Level	Screening Level	Screening Level	Screening Level
Cadmium	µg/L	4.7	5.4	6.2	7	7.3
Chromium (III)	µg/L	400	470	540	610	640
Copper	µg/L	19	22	26	29	30
Lead	µg/L	8.9	12	14	17	19
Nickel	µg/L	100	120	140	160	170
Silver	µg/L	16	23	31	39	44
Zinc	µg/L	240	280	330	370	390

[1] All metal concentrations are given as a total recoverable.

Table C-2G. Screening Levels for Copper and Zinc for City of Grass Valley, Wastewater Treatment Plant – Hardness 0 to < 25 mg/L

Parameter	Units	Hardness in mg/L (H)				
		0 ≤ H < 5	5 ≤ H < 10	10 ≤ H < 15	15 ≤ H < 20	20 ≤ H < 25
		Screening Level	Screening Level	Screening Level	Screening Level	Screening Level
Copper	µg/L	2.8	7.6	12	16	19
Zinc	µg/L	9.0	23	35	47	58

[1] All metal concentrations are given as a total recoverable.

Table C-2H. Screening Levels for Copper and Zinc for City of Grass Valley, Wastewater Treatment Plant – Hardness 25 to < 50 mg/L

Parameter	Units	Hardness in mg/L (H)				
		25 ≤ H < 30	30 ≤ H < 35	35 ≤ H < 40	40 ≤ H < 45	45 ≤ H < 50
		Screening Level	Screening Level	Screening Level	Screening Level	Screening Level
Copper	µg/L	23	26	30	33	37
Zinc	µg/L	69	79	89	99	110

[1] All metal concentrations are given as a total recoverable.

Table C-2I. Screening Levels for Copper and Zinc for City of Grass Valley, Wastewater Treatment Plant – Hardness 50 to < 75 mg/L

Parameter	Units	Hardness in mg/L (H)				
		50 ≤ H < 55	55 ≤ H < 60	60 ≤ H < 65	65 ≤ H < 70	70 ≤ H < 75
		Screening Level	Screening Level	Screening Level	Screening Level	Screening Level
Copper	µg/L	40	43	46	49	53
Zinc	µg/L	120	130	140	150	160

[1] All metal concentrations are given as a total recoverable.

Table C-2J. Screening Levels for Copper and Zinc for City of Grass Valley, Wastewater Treatment Plant – Hardness 75 to ≥ 100 mg/L

Parameter	Units	Hardness in mg/L (H)				
		75 ≤ H < 80	80 ≤ H < 85	85 ≤ H < 90	90 ≤ H < 95	95 ≤ H < 100
		Screening Level	Screening Level	Screening Level	Screening Level	Screening Level
Copper	µg/L	56	59	62	65	68
Zinc	µg/L	170	170	180	190	200

[1] All metal concentrations are given as a total recoverable.

Table C-2K. Screening Levels for Copper and Zinc for City of Grass Valley, Wastewater Treatment Plant – Hardness 100 to ≥ 200 mg/L

Parameter	Units	Hardness in mg/L (H)				
		100 ≤ H < 120	120 ≤ H < 140	140 ≤ H < 160	160 ≤ H < 180	180 ≤ H < 200
		Screening Level	Screening Level	Screening Level	Screening Level	Screening Level
Copper	µg/L	75	87	98	110	120
Zinc	µg/L	220	260	290	320	350

Table C-2L. Screening Levels for Copper and Zinc for City of Grass Valley, Wastewater Treatment Plant – Hardness 200 to ≥ 400 mg/L

Parameter	Units	Hardness in mg/L (H)				
		200 ≤ H < 250	250 ≤ H < 300	300 ≤ H < 350	350 ≤ H < 400	H ≥ 400
		Screening Level	Screening Level	Screening Level	Screening Level	Screening Level
Copper	µg/L	140	160	190	210	230
Zinc	µg/L	410	480	560	630	660

Table C-2M. Site Specific Water Effect Ratios for Copper and Zinc

Discharger	Individual Order / NPDES No.	Site-Specific WER Copper	Site-Specific WER Zinc
City of Auburn, Wastewater Treatment Plant	R5-2016-0038 / CA0077712	3.52	--
Donner Summit Public Utility District, Wastewater Treatment Plant	R5-2015-0068 / CA0081621	2.72	--
City of Galt, Wastewater Treatment Plant and Reclamation Facility	R5-2015-0123 / CA0081434	15	--
City of Grass Valley, Wastewater Treatment Plant	R5-2016-0012 / CA0079898	6.49	1.70
Cutler-Orosi Joint Powers Wastewater Authority, Wastewater Treatment Facility	R5-2013-0047-01 / CA0081485	3.1	--
El Dorado Irrigation District, Deer Creek Wastewater Treatment Plant	R5-2014-0081 / CA0078662	9.7	1.7
El Dorado Irrigation District, El Dorado Hills Wastewater Treatment Plant	R5-2013-0003 / CA0078671	8.05	--
United Auburn Indian Community, Thunder Valley Wastewater Treatment Plant	R5-2015-0077 / CA0084697	24.5	--

Discharger	Individual Order / NPDES No.	Site-Specific WER Copper	Site-Specific WER Zinc
United States Department of the Interior, National Park Service, Yosemite National Park, El Portal Wastewater Treatment Facility	R5-2014-0068 / CA0081759	2.0	--

III. Screening Levels for Other Constituents of Concern

To determine the constituents requiring effluent limitations, the Central Valley Water Board will conduct an RPA utilizing the effluent and ambient background data as discussed in section V.C.2.b of the Fact Sheet (Attachment F), the screening levels in Table C-3, and the constituent-specific procedures specified in section V.C.3.b of the Fact Sheet (Attachment F).

For waters with the MUN use, the Central Valley Water Board will conduct the RPA for chloride, fluoride, manganese, methylene blue active substances (MBAS or foaming agents), and electrical conductivity by comparing the maximum observed calendar year annual average effluent concentration to the screening level. The Central Valley Water Board will conduct the RPA for nitrite by comparing the maximum effluent nitrite concentration to the screening level.

For aluminum, the applicable screening levels shall be applied as follows:

A. If the Central Valley Water Board determines that the National Ambient Water Quality Criteria (NAWQC) chronic criterion is not applicable to a receiving water with the municipal and domestic supply (MUN) use, the screening level will be based on the Secondary MCL of 200 µg/L. The Central Valley Water Board will conduct the RPA by comparing the maximum observed calendar year annual average effluent aluminum concentration to the screening level.

B. If the Central Valley Water Board determines that the NAWQC chronic criterion is not applicable to a receiving water without the MUN use, the screening level will be based on the NAWQC acute criterion of 750 µg/L. The Central Valley Water Board will conduct the RPA by comparing the maximum observed effluent aluminum concentration to the screening level.

C. If the Central Valley Water Board determines that the NAWQC chronic criterion is applicable to a receiving water, the screening level will be based on the NAWQC chronic criterion. The Central Valley Water Board will conduct the RPA by comparing the maximum observed effluent aluminum concentration to the screening level.

Table C-3. Screening Levels for Other Constituents of Concern

Parameter	Units	Screening Level (Based on MUN[1])	Screening Level (Based on non-MUN[1])
Aluminum	µg/L	87 or 200[2]	87 or 750[2]
Chloride	mg/L	250	--
Fluoride, Total	mg/L	2	--
Foaming Agents (MBAS)	mg/L	0.5	--
Manganese	µg/L	50	--
Nitrite Nitrogen, Total (as N)	mg/L	1	--
Electrical Conductivity @ 25°C	µmhos/cm	900	--

1 MUN = Municipal and Domestic Supply Beneficial Use.

2 See section V.C.3.b of the Fact Sheet for a discussion of the appropriate screening level for aluminum.